

A fifth dissertation on fever : containing the history of, and remedies to be employed in irregular continued fevers ... / by George Fordyce ; edited by William Charles Wells.

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A
FIFTH DISSERTATION

ON
F E V E R,

CONTAINING THE
HISTORY OF, AND REMEDIES

TO BE EMPLOYED IN,
IRREGULAR CONTINUED FEVERS;

TOGETHER WITH A GENERAL CONCLUSION TO THE FOUR
PRECEDING AND PRESENT DISSERTATIONS.

Medicina igitur adhuc taliter comparata est, ut fuerit magis ostenta, quam elaborata; etiam magis elaborata quam amplificata.

BACON AUG. Sc. Lib. ii. Cap. i.

Solent autem homines naturam tanquam ex præalta turri et e longo despicere, et circa generalia nimium occupari; quando si descendere placuerit et ad particularia accedere, resque ipsas attentius et diligentius inspicere, magis vera et utilis fieret comprehensio.—IBID.

BY THE LATE

GEORGE FORDYCE, M. D. F. R. S.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS,
SENIOR PHYSICIAN TO ST. THOMAS'S HOSPITAL,
AND READER ON THE PRACTICE OF PHYSIC IN LONDON.

—○○○○—
EDITED

BY WILLIAM CHARLES WELLS, M. D. F. R. S.
AND PHYSICIAN TO ST. THOMAS'S HOSPITAL.

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L O N D O N:

PRINTED FOR J. JOHNSON, IN ST. PAUL'S CHURCHYARD,
BY J. G. BARNARD, GEORGE'S COURT, CLERKENWELL.

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1803.

FIRST DISSERTATION

F. V. E. R.

OF THE

IRREGULAR CONTINUED FRACTIONS

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ADVERTISEMENT.

THE original of the following work was delivered to me, several months ago, by Miss *Fordyce*, with a request, which her father, shortly before his death, had desired her to make, that I would superintend its publication. It is in the hand writing of Miss *Fordyce*, to whom it was the custom of her father to dictate what he meant to publish, and in almost every page there are alterations in his own writing; so that no doubt can be entertained of its authenticity. The author, however, was accustomed to reserve the principal corrections of any work he was about to publish, till what are called the proof sheets were sent him by the printer. The present work, therefore, must be considered as in some degree imperfect. The alterations, which it seemed very obviously to require in point of language, I have ventured to make; and in doing this I have not taken a greater liberty than what he permitted me to use, with respect to three of his preceding publications on fever.

WILLIAM CHARLES WELLS.

LONDON,
Dec. 12, 1802.

A

FIFTH DISSERTATION

ON

F E V E R.

IN the fourth dissertation on fever the author has endeavoured to point out the irregularities and accidents, which are apt to take place in intermitting fevers. He comes now, in the last place, to point out the diseases which may be complicated with, and the irregularities and accidents which may occur, in continued fevers.

The disease first to be taken notice of, as being sometimes intermixed with continued fever, is general inflammation. This has been described in the fourth dissertation, as it arises sometimes in intermitting and remitting fevers, prolonging often their

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parox-

paroxysms so that they run into each other, and making them appear, especially at the beginning, to be continued fevers; the only difference being, that the exacerbations take place in the day-time instead of the evening.

General inflammation is apt to take place also at the beginning of continued fevers. When it does, it alters their progress very much, and occasions a difference, not only in the appearances, but likewise in the treatment of the disease.

General inflammation is apt to take place in continued fevers, at the beginning of the disease, in men of strong habits. Therefore, it seldom occurs in those who live in parts where the atmosphere is contaminated by noxious vapours mixed with it, or by noxious powders or particles of noxious fluids suspended in it; as all of these generally prevent men from acquiring great strength.

These noxious substances, diffused through, or suspended in the air, are found more particularly in great towns, or where
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there is a great concourse of mankind.---
 The vapours exhaled from putrefying substances which are found in such circumstances, together with powders ground down by the treading of animals and the rubbing of carriages, the vapours arising from the burning of fuel, and the soil and ashes which are carried into the atmosphere, all tend to diminish the powers of the body. It is but very rarely that general inflammation arises at the beginning of continued fevers under these circumstances. When men live in the country, where the air is not contaminated by such mixture, general inflammation in many instances takes place in a very great degree.

Men are undoubtedly formed to live in warm climates.---They have no natural defence such as hair, or that species of it we call wool, or feathers, to defend them from the cold even of temperatures, which fall but little below sixty degrees of Fahrenheit's thermometer. When men live in a climate where the heat of the atmosphere rarely falls below seventy-five degrees, provided the situations which they

inhabit are not moist from stagnating waters or violent rains, they commonly enjoy perfect health; at least they are not particularly subject to fevers.

It is to be observed, however, that men are driven from such situations principally by war. An instinct, perhaps the strongest in the human mind, leads men into quarrels between families, tribes, or nations. In such wars the powerful force the weak to desert the most fruitful countries, and those most congenial to mankind, and to take up their abode in others which are less fruitful, and of a temperature which makes it necessary for them to exert their faculties in contriving, in the first place, some means of defence against the coldness and inclemency of the atmosphere. The exertions necessary for procuring such defence strengthen the powers of their minds. There results at the same time from living in a colder atmosphere an increase of the powers of their bodies.

It might be thought sufficient to have taken notice of this fact simply. The
author

author however means to try to explain on what it depends.

It is necessary that the blood-vessels should always contract so as to adapt themselves to the quantity of blood, which is contained in them. That is, they must always be full of blood, and always cylindrical, if they are not rendered of some other shape by external pressure: at least they are always so contracted when alive. This property cannot depend upon the elasticity of the blood-vessels, but on a contraction similar to that which is exerted by the muscles. If there should be a smaller quantity of blood in the blood-vessels than that which they are at the time disposed to contract to, there must be a greater exertion of the blood-vessels to adapt themselves to the quantity of blood which is in them. In consequence, the living power must be drawn from some other part and be exhausted, as it is by the contraction of the muscles in exercise or labour. It is not necessary that a greater exertion of the muscular power, such as takes place in exercise or labour, should be continued always; indeed, it is

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impossible.

impossible. A man exerting muscular power in labour or exercise must necessarily come to rest, until the powers of his body are recruited by that perfect rest which takes place in sleep. If such rest is not allowed, the powers of the system will be expended, and weakness will take place; that is, it will be impossible for a man to continue the same exertions.

When there is a smaller quantity of blood in the blood-vessels than that which is necessary to fill them to their disposition to contraction, they are obliged nevertheless to contract, and adapt themselves to the quantity in them. This has a similar effect with muscular motion, when too long continued, in weakening the system. There is this difference however, that muscular motion may and must cease; whereas, since blood cannot instantly be formed, the contraction of the blood-vessels, so as to adapt them to the blood which is in them, must constantly exist. - Neither can rest take place in this exertion, nor can sleep relieve it. This exertion is the most material of any in the system; for if the blood-vessels have not a sufficient quantity
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of blood to fill them to their present disposition to contract, the quantity of power must be drawn from the other parts of the body to contract them to the quantity of blood which they contain; so that, if the quantity continues constantly to diminish, the living power will be withdrawn from every other function until the animal dies.

The blood-vessels consist of large arteries gradually branching off into smaller ones, which terminate in vessels opening into each other. These have been called anastomosing arteries and veins. The anastomosing arteries and veins, as they have been called, have blood flowing through them in every direction; that is to say, blood enters sometimes into either end of them and flows out with rapidity at the other end; sometimes it enters at the end at which it formerly flowed out, and with the same rapidity flows out at the end into which it formerly entered. These vessels throw the blood into a set of smaller vessels of the same description, and these again into a set of still smaller vessels likewise of the same kind, until at last the blood is thrown into a set of vessels which

no longer diminish. These throw the blood into another set of similar vessels which are larger, these again into a set of vessels which are still larger, and these terminate in vessels called veins, which carry the blood towards the heart.

It has been common to call the anastomosing vessels, while they are diminishing, anastomosing arteries; and when they begin to increase again, anastomosing veins; but the smallest set of these vessels neither increasing nor diminishing, it is impossible to call them arteries or veins. The author would therefore give them some other name, and, from their extreme minuteness, joins with those who have called them capillary vessels.

All these vessels, the large arteries and veins, and the anastomosing or capillary vessels, must contract so as to be always cylindrical, and always full of blood. It may be easily conceived, that the exertion in contracting one set of them may exhaust the living power more than the exertion in contracting another set of them. That is, the exertion of the arteries before they begin to anastomose

anastomose, and of the veins after they have received the blood from the capillary vessels, in contracting, so as to adapt themselves to a less quantity of blood, may exhaust the living power more than the contraction of the capillary vessels themselves. That this is really the case appears from the following observation, that to kill an animal, it requires a much less quantity of blood to be taken from a large artery or a large vein, than from a small artery or a small vein; sometimes not half the quantity.

When a large blood-vessel is opened, and the blood flows very fast from it, the large vessels are more evacuated, and the animal is destroyed; the small vessels not having time to contract and replenish the large vessels with blood. Consequently, the contraction of the large vessels exhausts the power of the body more than the contraction of the small vessels.

The large vessels, both arteries and veins, lie principally in the interior parts of the body. There is, on the other hand, a greater number of small vessels in the
external

external parts than in the interior parts of the body.—When a man is in a warm atmosphere, or surrounded by any other warm medium, the heat occasions a much larger quantity of blood to circulate in the exterior parts where the small vessels are principally found; in consequence of which the large vessels are emptied of blood and obliged to contract to a greater degree. Those living in warm climates have their strength thus exhausted; but in cold climates, the cold being applied to the exterior parts of the body contracts the vessels on its surface, and keeps the large vessels in the interior parts full, so that the powers of the body are not exhausted by their contraction; and the vigour of the whole system is suffered to increase.

Countries are cold, in the first place, as they are more distant from the equator, especially in winter; general inflammation therefore may be expected in continued fevers more frequently in countries in high latitudes. In the second place, coldness is found in countries in proportion as they are elevated above the level of the sea,
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and therefore general inflammation is often found in fever in mountainous countries, and those in the middle of continents.--- Again, in the winter the atmosphere is cold, in the summer it is warm; general inflammation is therefore to be expected more frequently in the spring than in the autumn.

When general inflammation happens at the beginning of an intermitting fever, and prevents perfect intermissions from taking place, there is no difficulty in the question, whether it should be taken off by large evacuation by bleeding; because, during the intermissions, when these become more perfect, there is time for sufficient food to be digested so as to replenish the blood-vessels; but in continued fevers this question meets with greater difficulty. In continued fevers, where we are not to expect any such remission as will allow food of great nourishment to be digested, so as to replenish the blood vessels, and take off the exhaustion of the living power occasioned by the necessary contraction of the vessels, in order to adapt themselves to a smaller quantity

quantity of blood, it becomes absolutely necessary that the practitioner should strictly weigh the following argument.

There are three dangers: One, lest the increased action of the heart and arteries should throw forward such a quantity of blood upon the brain, as to induce a fatal delirium: a second, lest the same action should so hurt the brain as to make it unable to bear that mischief which induces delirium, such as has been already described in the Treatise on Regular Continued Fever; lastly, lest the tension, produced by the blood being thrown by the strong action of the heart and arteries into the small vessels throughout the system, should be suddenly taken off, and the patient should sink.---These reasons on the one hand induce a necessity of removing the general inflammation as quickly as possible, by making a large evacuation by opening a blood vessel,

On the other hand, supposing that, after having made large evacuations by opening a blood vessel, the practitioner should not be able to carry off the disease by the
means

means which are amply laid down in the Treatise on Regular Fever, it would then of necessity go through its course, and these difficulties would occur. In the first place, such a degree of weakness is induced, as added to the depression of strength, which arises in consequence of the fever, often produces symptoms of putrefaction in the second week of the disease, so as to prove fatal. Many instances of this have come under the author's observation. In the next place, supposing such symptoms of putrefaction have not made their appearance, yet a fatal degree of weakness has arisen towards the end of the fever, from the living power being obliged to exert itself in contracting the vessels to the smaller, and smaller quantity of blood that is left in them. This happens, first, from the evacuation made by bleeding; secondly, from the want of the powers of digestion to form a sufficient quantity of blood, if even food could be exhibited; hence the patient has sunk and been destroyed.

The author cannot help lamenting on this occasion, the terrible proposition laid down in an aphorism of Dr. Boerhaave, that it is difficult to diminish the strength
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at the beginning of fevers, but easy to support it towards the end: the contrary of which he has found by long experience to be true. This proposition of Boerhaave, from the year 1730 to the year 1760, destroyed more men than fell in battle in the whole of that period, during two dreadful wars in Europe.

It will well behove therefore a practitioner to weigh both sides of the argument before he proceeds to employ the lancet at the beginning of continued fevers. If the danger from the general inflammation is great; if it very much overbalances the mischief that would arise afterwards; he will then undoubtedly take away a quantity of blood by opening a blood-vessel.

If this should be the case, the following rules are to be observed—In the first place, the practitioner should weigh well in his mind the danger arising from the general inflammation, together with the general strength of the patient, and from thence determine what quantity of blood it is necessary to take away at once, to remove the danger from the general inflammation; and at the same time what quantity of blood
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the patient can bear to be taken away, without so weakening the system, as that he shall sink towards the end of the fever. That is to say, if the general inflammation is great, and the symptoms from it very dangerous, and if at the same time the strength of the patient when he was attacked by the fever was also great, it will be necessary to take away a large quantity of blood at once, as much as sixteen or twenty ounces, which may be done with safety and advantage. On the other hand, if the danger from the general inflammation be but trifling, and the patient was weak when attacked with the fever, it will be better not to take away any blood at all, but run rather the risk of the mischief which may arise from the general inflammation, than of that which may take place from putrefaction, if the fever be very violent, or of the weakness which may occur towards the end of the disease.

If there should be a less considerable degree of general inflammation but still danger from it, and though the fever should not be very violent; yet if the patient had not been very weak when he was attacked by the fever, it may be necessary in this case also
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to take away a quantity of blood; but the quantity should not be so large. However it rarely happens that there is any danger from the general inflammation, which can be obviated by taking away less than ten ounces of blood.

It has been the practice in many nations and among many practitioners, to take away a small quantity of blood at once, such as perhaps four ounces; and if this does not succeed in removing the danger from general inflammation, to take away four ounces more in a few hours, and so proceed until the danger from the general inflammation is removed. This practice at first sight seems very rational.

The reasoning which we have before laid down must be applied however to this point. It has been said, that emptying the large vessels produces a greater temporary weakness than emptying the small vessels, and that if a large quantity of blood is taken away at once, the large vessels will be more emptied, as the small vessels have not time to contract so as to replenish the large vessels with blood, and therefore
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that an animal will die sooner if a large quantity of blood be taken away at once, than if the same quantity be taken away at intervals; and that, of consequence, a greater degree of temporary weakness will be produced by taking away a large quantity at once, and a less degree of permanent weakness. Now we wish in fever to produce a great degree of temporary weakness, so as to get rid of the danger arising from the general inflammation, and at the same time to leave as little permanent weakness as possible, so that there shall be strength enough left in the system to support the patient during the remaining part of the disease.

It is certain, therefore, from all these circumstances, that a practitioner should weigh well the danger from the general inflammation, and the danger from the weakness, and take at once boldly the quantity of blood necessary to remove the danger from the general inflammation, if it be ten, twelve, fifteen, twenty, or even four and twenty ounces. On the other hand, if there should be general inflammation, and yet not in so great a degree as

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to threaten any material mischief, he must be as obstinately resolved not to take away any blood at all.

There is still one more situation in which it may be necessary to take away blood at the beginning of fever.

It has been observed in a former treatise, that there is a general contraction of the vessels, especially of the small vessels, in fever. If the blood-vessels should be very full of blood, which sometimes happens to persons between the age of fifteen or sixteen, and thirty or five and thirty; and if such persons should be attacked with fever, the quantity of blood is so great in proportion to the tone of the vessels, as to fill the heart and arteries to such a degree, that they have no longer, if the author may use a vulgar expression, room to play; that is to say, there is such an influx of blood into the ventricles of the heart, as not to suffer them to contract, so as to empty themselves entirely, before a fresh quantity of blood is thrown in from the auricles; and in like manner blood is thrown so quickly from the heart
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into the arteries, that they also have not time to contract themselves completely so as to empty themselves of blood into the capillary vessels, before a fresh quantity is thrown into them by the heart. This state of the vessels is called plethora. It is pointed out by a particular feel of the pulsations of the arteries, they feeling always full, and hardly receding from the finger.

When this is the case, the feel of the artery to the finger is a very small difference between its contraction and relaxation; but yet the artery feels always of considerable size, and has a kind of feel of softness.

This feel of the pulsation of the arteries has been called oppression of the pulse. If the pulse should be very much oppressed, which it hardly ever is in persons of a different age from what has been already mentioned, it will be necessary, in order that the hot fit of the fever may operate so as to produce relaxation or crisis, that some blood should

be taken away. Taking away eight or ten ounces is always sufficient for this purpose.

The author wishes it to be understood, that these reasons for taking away blood at the beginning of fever must be clear to a practitioner, before he ventures to open a blood-vessel with a lancet. There have been more patients destroyed by a contrary practice in fevers, such as he has defined them, than by any other whatever.

The author having shown, in the Third Dissertation, the circumstances in which taking away blood from particular parts of the body is of use in fevers, and likewise the accidents which arise from disposition to putrefaction and the means of obviating them, comes now to treat of the other irregularities which take place in continued fevers.

The first irregularity which is to be taken notice of is the fever not affecting every part of the system equally, the
symp-

symptoms being less severe in one part of it than in another; as for instance, there being little or no pain in the forehead.

The young and inexperienced practitioner, and the bystanders in a much greater degree, think that the mildness, or total want of some symptom of the fever, is very fortunate for the patient. In fact it is the very reverse, there being nothing more dangerous in fever than its not affecting every part of the system in an equal degree. It is true indeed, when all the symptoms are equally mild, and every part of the body equally little affected, that the fever, if left to itself, although there be a less chance of a crisis, will go through its course with less danger to the patient. It will, also, more readily yield to the application of medicines which produce appearances similar to those which take place in a crisis, and the disease will be more readily carried off by them. But this is far from being the case, when the symptoms are mild in one part of the body and severe in another. It will therefore be necessary to enumerate the cases, in which the

symptoms are mild in one part of the body, while they are severe in other parts.

Sometimes a fever does not attack a patient all at once, and he cannot exactly ascertain the time at which the first attack took place. In this case most commonly the system is not equally affected. In the next place, it sometimes happens, that although the fever came on in such a manner, that the patient can perfectly ascertain the time of the attack, yet at that time he felt no sense of coldness, or, as he generally expresses himself, chilliness. If this should happen, the fever is often irregular; but not so frequently as in the former case. In the third place, when the attack comes on, the depression of strength is sometimes in a much greater degree than the appearances of the contraction of the small vessels, and sometimes the reverse. If the depression of strength be greater than in proportion to the contraction of the small vessels, there is greater danger of delirium, such as has already been described, at the beginning of the second week of fever. If the appearances of contraction of
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of the small vessels be greater in proportion than the depression of strength, there is less chance of a crisis, and a greater probability of the disease running out to a great length. In the fourth place, the symptoms not found in particular parts of the body are the patient's being either totally free from head-ach, or very slightly affected with it; the tongue's not being covered with a crust, not only at the beginning, but likewise through the first week of the disease; there being no costiveness, but rather too great evacuations from the intestines. This last symptom sometimes increases to a diarrhoea, which, besides the irregularity it shows in a want of equal affection in the disease, tends also very much to weaken the patient. The appetite not being totally lost is a very deceitful symptom, because it would give an inexperienced practitioner the idea, that food might be easily digested, and so the strength be prevented from being exhausted during the progress of the disease. The skin's being soft and moist, and the sleep not being at the beginning of the fever very much disturbed, are also to be regarded as irregularities. If one, or two, or three of these mild

appearances should take place, and all the other symptoms should not be equally mild, the fever is likely to run out for a great length of time, and has a much less chance of being terminated by a crisis.

This is not only the case, but every attempt to carry off the fever by any remedy is frustrated. Every medicine, such as preparations of antimony, ipecacuanha, etc., which tends to produce symptoms similar to those which take place in the crisis of fever, has its whole force exhausted upon those parts, in which the appearances of fever are slight, and does not at all affect those parts which are most afflicted by the disease. For example; if there should be considerable pain in the forehead, and the skin should be soft and moist, preparations of antimony being exhibited, the patient will fall into a profuse sweat, without the least relief of the pain in the forehead.

It is further to be observed, that not only if there should be a want of febrile symptoms in any one particular part of
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the body, but if even those appearances should arise, which take place in a crisis, in some particular part of the body, and not in the whole at the same time, the mischief is much greater, and the patient in such a case rarely recovers. If, for example, there be a lateritious sediment in the urine from the beginning of the disease, or if it take place before the middle of the second week, and neither the head-ach nor delirium is any way diminished; if the skin should remain hot, contracted, and dry, the tongue covered with a mucous crust, and the pulse continue of equal frequency; it hardly ever happens that the patient recovers from the disease. In like manner, the skin having been dry and contracted at the beginning, if a profuse sweat afterwards take place, and continue for some time without any diminution of the other symptoms of the disease; that is, if there should be no lateritious sediment in the urine; if the costiveness and the head-ach should continue; instead of being favourable appearances of the disease, we are to expect that it will prove fatal. Independently of the mischief arising from inequality of the disease, any
 evacuation

evacuation will weaken the patient, and render him incapable of supporting the further progress of it, if there be not at the same time an alleviation of the other appearances of the disease.

If any symptom of the disease should be wanting, and the others be present in as great a degree as when the body is equally affected, there is no remedy at present known, which will increase the particular appearances of fever in those parts in which they are wanting; nor, as far as the author knows, has it ever been attempted to increase the appearances of fever in those parts where they have been wanting, so as to render the efforts towards a crisis, that arise in the ordinary course of the disease, or after the application of such medicines, as tend to produce appearances similar to those which take place in the crisis to fever, effectual in carrying off the disease.

For example;—when there is no pain in the forehead, while all the other symptoms of the disease are very violent, no attempt has been made to produce pain
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in the forehead, in order to render the efforts similar to those which are made in the ordinary progress of the disease, where medicines act equally upon the whole system, so as to carry off the disease.

When the want of a sufficient degree of fever in any part of the body has been attended with considerable evacuation from that part; then indeed means have been employed to put a stop to such evacuation, and so prevent the mischief arising from the weakness it would produce.

If profuse sweating should arise without any relief of the fever, astringents have been employed to contract the vessels of the skin; such as the mild vegetable astringents, as infusion of red roses, agrimony, hypericum, and others of the same kind, along with vitriolic and muriatic acids: these are frequently efficacious. The patient at the same time should not be covered with too great a quantity of bed clothes; this is to be regulated, however, by the heat of the atmosphere.

If

If there should be purging, without any relief of the disease; after exhibiting a moderate quantity of rhubarb, from twenty to thirty grains for example, to clear the primæ viæ of their contents, it is proper to give small doses of opium, such as from ten to fifteen drops of the tinctura opii every six hours, and along with it some moderate astringent; for example, about ten grains of tormentil root every six hours.

If the patient should have very considerable strength, as is often the case in the first week of the disease, and purging should arise, it is not proper that any astringent should be employed as powerful as those just mentioned. The practitioner must trust to clearing the primæ viæ with a small quantity of rhubarb, and exhibiting a grain of ipecacuanha every six hours, or any other medicine which will determine the circulation to the exterior parts of the body. Chalk or bone ashes are the most powerful astringents which ought to be employed in this case. If, notwithstanding the use of these milder astringents,

astringents, the evacuation should still continue, and the patient's strength be considerably diminished, recourse must be had to more powerful astringents, such as have already been proposed.

The next irregularity which happens in continued fever is in the progress of the disease.

If a fever should begin either with milder or more violent symptoms, but which, as has been before observed, are equal throughout the system; if it should gradually increase during the first week, or perhaps to the eighth or ninth day; if the symptoms should continue nearly with the same violence to the end of the 14th or 15th day; if it should then begin to diminish gradually, and wear itself out, so as to leave the patient on or before the 21st or 22d day of the disease; and if it should not observe any critical days, the treatment has already been pointed out in the Dissertation on Regular Fever.

If a fever observe critical days in temperate and cold climates, and be entirely

tirely left to itself, the critical days should become apparent in the first week of the disease; that is, the aggravations of the fever ought to be very apparent on the evening of each day, and the relaxations in the morning ought likewise to be very considerable, only that the aggravation of every subsequent day should be more severe than that of the preceding day, and the relaxation in the morning proportionably less. If the fever should change its type on the 6th or 7th day, and the exacerbation on either of those days be more severe; and if there should be some appearance of critical symptoms in the morning after such severe exacerbation, and on the 7th or 8th evening the symptoms of exacerbation should not be so considerable, and the symptoms of relaxation or crisis on the following morning should not be so great: and again, if the symptoms of aggravation should be more violent on the 8th or 9th day than they were on the 7th or 8th, and so on during the further progress of the disease, until it changes its type from the tertian to the quartan, which commonly happens on the 14th day: then, if critical appearances do not arise
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on the 14th day, so as to carry off the disease, the disease ought at least to have less aggravations at the beginnings of the 15th and 16th days, and the relaxation in the morning should be more considerable on the 16th day; a somewhat stronger exacerbation should take place the following evening than did on the beginning of the 15th or 16th day, and during the night more perfect critical symptoms should take place, and the patient be much relieved in the morning.

There should be still slighter exacerbations on the 18th and 19th, and there should be a stronger exacerbation and a perfect crisis on the 20th day; or the few remaining symptoms of the disease should gradually wear off. The treatment under these appearances has been likewise pointed out in the Third Dissertation.

If instead of these things taking place in the first case we have put, where the disease observes no critical days; that is, if instead of the disease gradually increasing to a certain height, then remaining at that height for the time that has been
stated,

stated, and afterwards gradually diminishing and going off, the patient should sometimes be better for two or three days and then grow worse, and the symptoms should again abate for a day or two and then return with greater force, and so continue for the first three weeks of the disease; the fever, instead of gradually leaving the patient, will often continue to return for four, five, or six weeks, or longer, and the patient will be cut off at last, in many cases, by weakness.

When a practitioner finds a fever thus to deviate from the ordinary course, in the first fortnight, he ought to be very anxious, where symptoms of weakness have not already come on, to endeavour to take off the disease by medicines producing symptoms similar to those which take place in the crisis of fever, such as preparations of antimony, ipecacuanha, etc. If they do not succeed, and no crisis is produced, he must in this case desist from them about the tenth day of the disease; otherwise they will run a risk of occasioning partial evacuations, which weaken the patient

patient unnecessarily, and add considerably to his danger.

The author does not know a more unpleasant situation than that of the practitioner in this case. All that he can do is to endeavour to keep up the strength of the patient, by such food as his stomach can digest, and by a very moderate quantity of wine. The patient, his relations, and the by-standers, in the mean time, are constantly urging him to use some powerful remedy; while he knows, that if he complies with their importunity, it will only add to the danger, without the least chance of shortening the disease, excepting by the destruction of the patient. It is his duty, therefore, to resist every consideration of this kind, and wait patiently until the disease is worn out.

In the second case which has been pointed out, where the fever observes critical days:—if there should be on one of these critical days considerable appearance of crisis, and the patient be much relieved, and continue better for

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two or three days, but afterwards grow gradually worse again for two or three days longer: or if there be a strong exacerbation followed by few or no critical symptoms, and the patient be left during the next relaxation with much severer symptoms of the disease; and if afterwards for a day or two the patient continue extremely ill, and then on a subsequent critical day there be strong appearances of a crisis, and the patient be relieved again for a day or two, and then gradually get worse; or if a much stronger exacerbation follow again, with hardly any symptoms of crisis, and the disease go on: either the recurrence of one such strong exacerbation destroys the patient, or the disease does not wear itself out, but runs on until the patient is so much exhausted, that he sinks.

This mischief is increased considerably, if the appearance of critical symptoms should take place on a day that is not critical in the disease; that is to say, if the fever assume the tertian type on the 5th day of the disease, and consequently the 7th, 9th, and 11th be the critical days.

If

If in this case of fever a great relaxation after a strong exacerbation should take place on the 6th, 8th, or 10th, etc. day of the disease, and then the disease should gradually get worse again, as has just been pointed out: or if the tertian type should begin on the 6th day of the disease, so that the critical days, which Hippocrates calls bastard critical days, should be on the 8th, 10th, etc. and if a greater relaxation after a severe exacerbation should take place on the 7th, 9th, etc. days, the danger is also much greater, both of the patient's being carried off by a severe exacerbation, and also of the disease running to a very great length, so that the patient shall sink under the weakness.

Where great relaxation takes place in any of these cases, the appearances are a great degree of cleanness of the tongue, especially about the edges, the costiveness going off, the skin becoming moist, a mucous cloud in the urine, interspersed with various particles of flaky, whitish, or lateritious matter, the patient's sleeping better. These, and other critical symptoms, continue for a day or two, and then again

the tongue becomes foul, the skin dry, the sleep ceases, the delirium is increased, either gradually or all at once, and with these, the other symptoms are also augmented to such a degree, that death is often the consequence. In such cases, it is worth while, immediately after such considerable relaxation of the disease, to employ large quantities of the bark of the cinchona, in substance; that is, to the quantity of a drachm every two or four hours, to prevent the return of the disease. This practice frequently succeeds; but when it does not, it often increases the difficulty of respiration, or the affection of the head, so that the patient dies. It is nevertheless worth running the risk, since the disease, if left to itself, is much more frequently fatal. This kind of irregularity in continued fever, is fortunately not very frequent; and many practitioners may not have seen or noticed it. Sometimes, however, fevers of this kind are epidemic in a very high degree. In the course of two or three months, about sixteen or twenty years ago, the author saw at least forty such cases in St. Thomas's Hospital. He had remarked this irregularity before that time; and had
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seen it in most cases fatal, by wearing out the patient. No perfect crisis took place, nor did the disease spontaneously cease in about three weeks, as continued fevers generally do. In this epidemic, the irregularity was such as to weaken and carry off the patient, in most cases, in less than three weeks. This induced the author to try the exhibition of large quantities of peruvian bark, to endeavour to put a stop to the disease, and from that time, the author did not lose more than one patient out of seven. It is necessary to observe, however, that of those patients who died several were lost from great affection of the head or breast, evidently in consequence of the effects of the cinchona. This happened not only in the Hospital, but also in many cases, which elsewhere fell under his care. It must be observed, on the other hand, that this kind of irregularity in the disease, when the cinchona was not employed, was fatal to more than half the patients in whom it occurred.

It must lastly be mentioned, that this kind of irregularity is in all degrees; and therefore, that when it is in a very slight

one, there is room left to consider whether this practice ought to be pursued.

The next irregularity which is to be taken notice of is, when hysteric symptoms occur during the progress of the disease. It happens sometimes, that hysteric symptoms take place in men, as well as in women, when they are otherwise in ordinary health, but this is very rare. In fevers, both sexes are nearly equally apt to be affected with them.

These hysteric symptoms are great irregularity in the appearances of the disease. The pulse sometimes rises to a hundred and fifty or sixty strokes in a minute, or even more than can be counted. This happens without any great oppression upon the breast, or any great affection of the head, or in short, without any aggravation of the other symptoms of the disease. The tongue is at the same time tolerably clean, even cleaner sometimes than it is in its ordinary state, the skin is moist, and the other functions of the body not much affected. Sometimes there is great depression of the spirits, great anxiety of the mind,

mind, without any apparent cause. Sometimes the patient falls into violent floods of tears, for which he is unable to assign a reason. Sometimes there is a great flow of almost colourless urine; or it is sometimes of a faint white colour, like whey. Now and then subsultus tendinum arises in the wrists, at the same time that there is not much affection of the head.

The hysteric symptoms are more alarming to the patient, his relations, and even to practitioners of no great experience in the disease, than they are dangerous. However, it must be remarked, that they often prevent the disease from subsiding by its ordinary course. It sometimes runs on beyond three weeks, and, in consequence, weakens the patient so as to be fatal.

In case such hysteric affections should make their appearance, the patient ought to be supported by animal broths, from which all fat has been carefully separated, by allowing them to cool, and straining them before they are made use of; and by farinaceous vegetable solutions, such as

water gruel, panada, sago, etc. mixed with a moderate quantity of wine, not exceeding a pint in twenty-four hours. At the same time the patient should take a moderate quantity of opium, about eight or ten drops of the tinctura opii, with some antispasmodic, such as about ten grains of Russian castor, every four hours.

It is to be observed also, that he ought by no means to be irritated by blisters, especially those containing cantharides; which the author has known in many cases to have been absorbed, and to have irritated the system, so as to produce these hysterical symptoms.

Very great care must also be taken not to irritate the patient's mind, by allowing any thing to be revealed to him, with regard to his affairs, which is a precaution necessary in all cases of fever, but especially in this.

The last irregularity to be mentioned, as apt to happen in fever, is, when many critical symptoms take place all at once, either on a true, or, as Hippocrates calls it,

it, on a bastard critical day. These happen generally about four or five o'clock in the morning. They are a copious sweat, one or two loose evacuations from the intestines, the tongue becoming clean all over, or at least about the edges; a lateritious sediment falling to the bottom of the urine on standing, &c. If the delirium, nevertheless, do not at all subside, especially when that delirium has not been attended with symptoms of fullness of the vessels of the brain; or if, though the delirium has subsided considerably, the pulse remain equally frequent, or become more frequent than it was before; or if the patient be at the same time very restless; or if the oppression about the præcordia continue as considerable as it was before, together with difficulty of breathing; or if, notwithstanding the appearance of several critical symptoms, the sleep continue unquiet and unrefreshing; or if the appetite have not at all recurred; in all these cases, when they have come under the author's observation, the disease has always been fatal.

The author suspected that some mischief had happened, during the disease, to
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some particular part of the body, such as the brain, the heart, the lungs, or some of the other viscera necessary to life; and he has, in many cases of this kind, had the body opened by Mr. Hunter, and others of the first anatomists of the age, but without finding any apparent injury in any of the vital parts.

It happens sometimes, that in this irregularity, and appearance of several critical symptoms, the delirium, which had been very great almost from the beginning of the disease, has all at once subsided and gone entirely off, the pulse remaining at the same time frequent to perhaps a hundred and ten or twenty strokes in a minute, the depression of strength remaining without any variation, the appetite being lost to a still greater degree, and the whole functions of the body being more deranged. The patient remains in this state apparently perfectly in his senses, and then all at once sinks, and is carried off, as if the mind, conscious of its connection with the material part of the system, had disentangled itself from all attention to it.

GENERAL CONCLUSION
TO THE
AUTHOR'S DISSERTATIONS
ON
F E V E R.

THE very vague manner, in which most authors have defined and described the disease they have called fever, leaves it difficult to ascertain what disease they mean by this term. Such of them, however, as have written after long practice, mean certainly one individual disease. This induced the author of the preceding dissertations to try to investigate exactly the disease these authors intended to explain.

He was the more induced to this undertaking by finding systematic writers, who

who had generally seen little or no practice, confound themselves, and, what is worse, their readers, in a labyrinth, from which they had no clew to extricate themselves. Another motive for this undertaking arose from the confusion to be found in almost every school of medicine, where teachers have almost always endeavoured to introduce some plausible hypothesis. If they could infuse into the enthusiastic minds of young men a fondness for their doctrines, it has been always sufficient to render the school famous, and to attract to it numerous students. After the teacher's death, the school has gradually diminished. A new hypothesis, in some other part of Europe, has then attracted to it a new attention, with the same success. Witness the Italian schools, those of Montpellier, Paris, and Leyden; not to mention others nearer our own time.

It is also to be observed, that the success of Linnæus, in establishing, if the author may so call it, a dictionary of plants, in which he has made use of the different figures of the parts of fructification as the first letter of his alphabet, induced

duced him to make similar attempts, not only in all other parts of natural history, but also in diseases. In this last attempt he has been imitated by many others, who have laboured to make the same kind of dictionary of diseases. Such attempts must cease of themselves, perhaps for ever, at least until our knowledge of diseases is advanced far beyond the point at which it is arrived at present. The fallacy of this mode, and what has been already observed, were the motives which led the author to so arduous a task as that which he has undertaken.

First then, he has endeavoured to discriminate exactly that disease, which has been understood by practitioners of much experience by the name of fever; such as was understood by that name by the ancient Greek physicians, and is described in that compilation of their medical knowledge, which goes by the name of Hippocrates's works; such as was afterwards described by Celsus, Galen, Aretæus, and other physicians, who practiced in the Roman Empire about the time of Augustus Cæsar, or in a century or two after it; and such

such as was likewise understood by Hoffmann, and some others, after the revival of literature.

The author has endeavoured to show, in the first dissertation,—1st, that fever is a disease of the whole system, which, however, does not necessarily occupy the whole of it at the same time. It is sometimes not present in particular parts of the body; and there is no symptom that may not be wanting, even during the whole time of the disease. There is none therefore that can be considered as the first letter of an alphabet, such as the number and position of the stamina in plants; on which account it is impossible to make any such arrangement in this disease, as has been attempted by Linnæus, Sauvages, and many others. The disease must be looked at in all its parts to be comprehended.

In the second place, he has endeavoured to show that fever is a disease in itself, not depending on any other disorder in the system, or, in other words, not a symptomatic, but an idiopathic disease.

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He has endeavoured to enumerate the causes producing this disease, and likewise to show, that it often arises from causes which are not at all known; that from whatever cause it arises, when it once takes place, it is totally independent of the cause which produced it, and goes through its further progress most commonly in the same manner, whether its original cause continues to be applied or not; that it is a short disease in itself, hardly ever continuing above twenty-four hours, and never so long as seventy-two hours; and that it consists of an attack, a natural cure, and the appearances which take place during the time of its going off.

In the second and third dissertations he has shown, that it may be continued for a longer time by repetition; that is, by a new paroxysm taking place after the first has gone off, or during the time that the first is going through its progress; in the first place, in the second dissertation, that one paroxysm may entirely go off, and another, after a certain interval, take place; that when one paroxysm has taken place

place and gone through its stages, so as to leave the patient free from every symptom of the disease, or, in other words, when the crisis is perfectly complete, it rarely, perhaps never, recurs; that is, the patient is not more subject to fever, than a man never before affected with that disease; but that sometimes, however, although rarely, some symptom of the disease, although not perceived by the patient, or by-standers, or even by a practitioner in medicine, may still remain; in which case the disease often returns.

When a crisis more or less complete, but not absolutely so, has taken place in the first, or some subsequent paroxysm in the first week of a fever, the disease recurs, and is called an intermitting or remitting fever.

When a new paroxysm of fever occurs in this manner, it rarely arises from the same causes which originally produced the disease, but most commonly from some unknown cause which is most apt to act at the end of about forty-eight hours, and which sometimes also acts, but not so frequently,

frequently, at the end of about twenty-four or seventy-two hours, though there are cases in which it acts at the end of almost any other number of hours.

Not only each paroxysm has a natural cure, which carries it off more or less perfectly, but the paroxysms at the beginning of the disease grow more and more violent for a certain period of time, then remain nearly in the same degree for another period, and afterwards diminish and entirely subside, leaving the patient in health, but much weakened by the disease.

On the other hand, it sometimes happens, that a perfect crisis terminates one of the paroxysms, and then the disease does not recur, but leaves the patient in health, only weaker than he was before the attack of the disease.

The disease may attack the patient in any one of the paroxysms, with symptoms of the first stage so violent, as to prove fatal.

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In the ordinary progress of the disease, such a degree of weakness may take place, as that the patient shall sink; or some of the viscera may be so much hurt as to produce fatal effects.

The treatment of the disease may be considered in three lights; first, to allow the disease to go through its own course, taking care only that no mischief shall happen to the patient during its progress; secondly, to employ such medicines as shall induce a perfect crisis in one of the paroxysms, so as to prevent the disease recurring, or shall at least render the intermissions so perfect, as to allow of proper nourishment and exercise, and so prevent the patient from being weakened and exhausted until the disease wears itself out; and lastly, to employ medicines which shall counteract the unknown cause of the recurring of the paroxysms, and prevent the return of the disease.

In the third dissertation, the author has pointed out those cases, in which a fresh paroxysm occurs during the continuance

nuance of the symptoms of the former, or, in other words, during the hot fit of the preceding paroxysm of the disease, which shows that some exertion is made towards carrying off the disease.

This attack of the fresh paroxysm takes place in consequence of some cause, which induces in all men some appearance of fever in the evening, in whatever climate they happen to be. This, although it is evident in all mankind, has had no adequate cause assigned for it.

In this case, a fresh attack of the disease takes place in the evening of the same civil day, if the first attack was before six in the morning of that day; but if the first attack was after six in the morning of a civil day, and before midnight of the same day, which is almost always the case, and if the hot fit should continue without producing a crisis till six o'clock in the subsequent civil day, then the first exacerbation arises between five and six o'clock in the evening of the subsequent day, and the second exacerbation of the disease and the following ones all take

place between five and six o'clock of each succeeding day. This is called a continued fever.

In this disease there are three methods by which it may be terminated.

First; the exacerbations gradually become more and more violent every day for a certain length of time, commonly during the first week of the disease. In consequence, the fever gradually increases. Afterwards the exacerbations are more severe every other day; or the disease continues nearly equal for a certain length of time, generally to the end of the second week or fourteenth day of the disease. The appearances of the disease itself are therefore nearly equal during this period. After this, the disease gradually diminishes of itself, and entirely leaves the patient, commonly by the twenty-first day after the attack. The duration of these periods is however uncertain, so that the period of the increase of the disease may be extended, but rarely, much beyond the first week. The period of its remaining in the same state may be increased considerably beyond

beyond the second week, and the period of its diminution may be still further enlarged, so that the disease may be extended to six weeks, or even longer, and be entangled with symptoms of irregularity, etc. which are described in the fifth dissertation.

In this way a continued fever may terminate without any assistance from medicine.

Secondly; an inflammation may take place in some part of the body, sometimes in one part and sometimes in another, without any apparent cause, and may terminate the fever itself, so that sometimes the patient recovers his health immediately, excepting for the symptoms of the inflammation, or the affection of the system arising in consequence of it. The same thing may happen from an active hemorrhage taking place. In this second mode also, the patient may be entirely freed from the fever, without any assistance from medicine whatever.

A third method in which a fever is often terminated is by a crisis putting an end to one paroxysm completely, so as

entirely to liberate the patient from the disease.

In this third way, such a crisis takes place in the first week on the days of the quotidian type; in the second week on the days of the tertian type; in the third week on the days of the quartan type.

Further; when such a crisis takes place in the first week, the disease is apt to recur. If it should take place in the second week, the disease is less apt to recur; but if it takes place in the third week, the fever rarely recurs. The more perfect the crisis, the less apt is the fever to return.

Thus then, there are three ways in which a fever may be terminated, and the patient restored to health, without any assistance from medicine; nay, even if a practitioner had used every means that was likely to destroy the patient, or prevent the fever from going off by the powers inherent in the body. A practitioner, therefore, is not to believe that the remedies he has employed cure the patient, if he gets well, unless he understands

derstands how the disease would have proceeded if no medicine had been employed.

It has been also stated in the third dissertation, that a continued fever may be terminated by the exhibition of medicines, which produce appearances in the body similar to those which take place in the crisis of fever. The principal medicines which produce this effect, are preparations of antimony, ipecacuanha, and cold water drunk in large quantity. These medicines tend to produce relaxation in all parts of the body; and have their principal and most powerful effects, when employed at the beginning of the disease. They certainly produce crisis in fever much more frequently, than it would have arisen if they had not been exhibited: but still, it is necessary, if they do not produce such crisis, that a practitioner should attend to the ordinary progress of the disease.

In the next place, the disease may be carried off sometimes by producing an inflammation, or a hemorrhage, in some part of the body. The only cases in which

occasioning a hemorrhage has been known to succeed are those, in which it has been produced by opening some vessel of the head, when the head has been particularly affected at the beginning of the disease.

Inflammation has also been excited in the external parts of the body, in consequence of which the disease has sometimes been carried off, or at least diminished.

All these methods, although they may not carry off the fever entirely, yet in many cases diminish the symptoms considerably, so that the disease goes through its ordinary progress, and the patient recovers, when he otherwise would have been destroyed.

When such medicines however are exhibited as produce the ordinary symptoms of crisis, they sometimes act partially and increase some one evacuation, so as to render the patient weak and unable to sustain the ordinary progress of the disease. If this should happen, they are to be desisted from. The producing of hemorrhage

rhage from the head, if that be the part chiefly affected, also occasions weakness, and is therefore improper, if the evacuation be considerable. Exciting an inflammation by cantharides or otherwise, in any exterior part of the body, is apt to irritate the patient, and render the disease more hazardous. It should not, therefore, be practised, except some part of the body be considerably affected; although in this opinion the author differs from many practitioners, some of them among the most judicious, others of them being tempted to employ this remedy by the desire of impressing on the minds of the relations of the sick and the by-standers, that they are not inattentive to the means of curing the disease.

The author has also said in the third dissertation, that many have employed the bark of the cinchona to prevent the recurring of the exacerbations in continued fevers; but he has also mentioned, that it seldom has this effect, and that where it fails, it increases the affection of the head and breast, so as to endanger the life of the patient.

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The author has likewise taken notice of an opinion, which has been adopted by many practitioners; to wit, that no effort should be made to check the ordinary course of the disease, but that it ought to be suffered to go through its progress, which they call leaving it entirely to nature.

Supposing that no medicine of any kind had been found out that would carry off a fever, it would not, certainly, be indifferent what attention was paid to the patient. It is also clear, that when those medicines, which have been found to carry off fever in a number of cases, have failed, it would likewise be not indifferent in what manner a patient was treated. The author, therefore, has shown in the third dissertation, that in all fevers it is necessary to clear the *primæ viæ* of any noxious matter that may be contained in them; that care is to be taken that the patient may have such nourishment as shall not disorder either the *primæ viæ* themselves, or any part of the system; that the mind should be kept perfectly at rest; that the patient should be kept in bed, in a moderate degree of heat, and in an air free from any noxious matter;
and

and that any evacuations which are not critical ought to be checked, if they be in too great quantity.

It was next to be inquired in what manner a fever may be fatal to the patient. In the first place, it may be fatal from its own violence; secondly, from some particular part of the body being much more affected than the other parts of the system; in the third place, from the patient's being weakened and worn out by the disease; and lastly, by some accident, which may destroy the patient, and which either might have been fatal had it happened in a person not afflicted with fever, or, although it would not have destroyed the patient if it had happened in health, yet, proves fatal in consequence of the state the system is in during this disease.

The method of obviating these dangers should have, properly, belonged to the fourth and fifth dissertations; but as the means of diminishing the fever are the same as those which often entirely carry it off, this subject was discussed in the second and third dissertations.

One of the accidents which are apt to arise in the disease, and sometimes destroy the patient, is a degree of putrefaction, which takes place in the fluids. It has been shown in the third dissertation, that this disposition to putrefaction depends entirely on the depression of strength; and that, therefore, no antiputrescent is of any use in preventing or carrying it off; but that taking care not to make unnecessary evacuations at the beginning of the disease, employing such food as can be perfectly digested without creating any disturbance in the system, and endeavouring by other means to avoid wasting the powers of the system, are the only measures which can be employed, excepting where hemorrhage takes place, and that in this case, the bark of the cinchona together with acids, of which vitriolic and muriatic seem to be the most powerful, is to be exhibited.

The other dangers, to which patients in fever are exposed, have been treated of in the fourth and fifth dissertations.

It has been shown in these, that general inflammation is sometimes fatal by
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such a quantity of blood being thrown upon the brain, as to produce delirium and destroy the patient; or by such a degree of tension taking place in every part of the system, that if by any accident the strong action of the heart and arteries ceases, even for a very short period of time, the tension likewise ceases, and the patient is carried off; or by an inflammation occurring in some particular part of the body, without entirely carrying off the fever, so that the patient shall labour under two diseases, the inflammation, with its effects on the system, and the fever.

It has been shown in the fourth dissertation, that this general inflammation often renders the intermissions of an intermitting fever imperfect, so as to cause the paroxysms to run into each other, and even resemble a continued fever, in the first week of the disease; that in this case, a quantity of blood may be taken away to remove the general inflammation, since, if the intermissions become more perfect, time will be afforded to employ nourishment to replenish the vessels; that this general inflammation very rarely happens in
warm

warm climates, and that weakness in those climates being much more dangerous, evacuation by bleeding should hardly ever be made in the fevers which occur in them.

In the fifth dissertation it has been shown, that if the fever cannot be carried off, but goes necessarily through its ordinary course, although no mischief appears immediately from taking away a large quantity of blood, yet as no time is afforded for food to be digested, the vessels cannot be replenished, and such a degree of weakness is produced in the third week as to carry off the patient.

Another mischief also happens, which is, that the weakness produced by the bleeding, together with the depression of strength, often produces putrefaction of the fluids in the second week of the disease, to a degree that is fatal. It is, therefore, very necessary to avoid taking away blood at the beginning of continued fevers, except there be such a degree of inflammation present, as threatens the life of the patient.

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In the fourth dissertation, it has been shown, that in intermitting and remitting fevers in hot climates, in which they by far the most commonly occur, the paroxysms are much more violent; so that when a few of them have taken place, the disease is often fatal. In this case, practitioners have been frightened, as spectators are when violent torrents are carrying every thing along with them; and losing their presence of mind, some have employed copious evacuations by bleeding, some active purgatives, some emetics, others mercury in large doses, so as to produce salivation; and some of them have thrown large quantities of cold water upon their patients. But all these measures have proved equally unsuccessful, as appears, when fevers have arisen in armies, by the returns made of those who have died. The practice therefore recommended in the second dissertation should only be attended to in such remittents.

In the fifth dissertation, the author has shown, that sometimes the brain, the lungs, or the heart, or at least some part about the head or breast, has been so hurt, that
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although a crisis has taken place so as to carry off the fever itself, the patient has nevertheless died.

In the same dissertation, he has also shown the mischiefs, which arise from the system not being equally affected with the disease, and the modes that may be employed to remedy them. He has likewise taken notice of the hysteric symptoms which often occur in irregular fevers, and has said that they may be relieved by small doses of opium and antispasmodics.

The author, having thus briefly recapitulated the principal subjects of his several dissertations, taking example from Columella, who published his works upon agriculture at different times, wishes now to take notice of the criticisms, which, he has heard, have been made upon him.

First: It has been said by some, that he has been too minute in describing the disease itself, and the remedies to be employed in it; or, as these observers have expressed it, he has been too verbose in these dissertations. But he begs leave to
remark,

remark, that most authors and teachers of medicine at this time are scandalously negligent in giving accounts of diseases, and the remedies that are to be employed in them; so much so, that there are teachers in London, who pretend to teach the whole knowledge of all the diseases incident to the human body, as well as the effects of the remedies applicable to them, in thirty-six lectures of somewhat less than an hour each.

If a man were but to reflect on the great importance of this science to mankind, and on the immense detriment it is to a family, to lose either a father or mother at a premature age, not to mention the distress arising from parents losing their children, he would take great care, before he began to practice this art, to inquire into it in the most minute manner. The author has found, in correcting the copy of the second edition of the first dissertation, that, without adding any one new idea, he has been obliged to extend it considerably in words.

With regard to plagiarism, he will take for instance, what he has been said to bor-

row from Dr. Cullen, the use and mode of action of antimony.

He certainly cannot justly be said to take the use of antimony in fevers from Dr. Cullen, because it is well known, that Dr. James, a regularly bred physician, had brought it into general use before Dr. Cullen began to teach medicine. Neither can he be said to have taken the mode of its action from Dr. Cullen, because Dr. Cullen called it a nauseating medicine, and ascribed its effects, in carrying off fever, to its producing sickness; and this he taught to the author, who embraces this opportunity of acknowledging the acquirement of much knowledge from so great a master in medicine, and also his great friendship in admitting him at all times like a son into his house. The author, on the other hand, when he came to see a great number of patients, after being chosen physician to St. Thomas's Hospital, found, as he has observed in these dissertations, that, so far from the sickness produced by antimony being the cause which carries off fever, when small doses produce sickness the effect is much less cer-

certain; and also that other medicines, which occasion as great sickness as is induced by antimony, such as squills, have not the least power of producing symptoms similar to those which take place in the crisis of fever.

The author has one thing further to remark, that he has not made the species of fever such as have commonly been made by almost all authors from the beginning of medicine.

In the first place, the author has excluded from fever, all diseases in which the pulse becomes more frequent, the tongue foul, and the system is otherwise deranged, when this derangement evidently arises from some manifest cause, such as inflammation, suppuration, extraneous substances lodged in some particular parts of the body, and various other similar circumstances, which during their action keep up the above mentioned appearances in the system, and upon the ceasing of which the body gradually returns to its healthy state. He has said, also, that the action of causes of fever produces the disease at once, and

that the fever continues, whether the cause be present or removed. He has by this means cut off a great many diseases, which by many practitioners have been called fevers.

He has admitted only two distinct species of fever, to wit, continued fevers, and intermitting or remitting fevers. These he has distinguished in the first place by the causes of the returns of the paroxysms; the cause in continued fevers being the evening paroxysm of fever, which occurs to all men, whether in health or in disease, between five and six o'clock in the evening; while the cause of the returns of the paroxysms of intermittent fevers is certain periods of time, which are nearly about the end of forty-eight, twenty-four, and seventy-two hours, excepting that there is an indisposition to the returns from ten o'clock in the evening to six in the morning. These periods of time have been called types. There is also another essential difference between these two species of fever. The attacks in intermittents are much more severe, and the intermissions or remissions much more per-

perfect than in continued fevers; and further, continued fevers, if no accident occurs, go through their course, so as to terminate before the end of the third week; while intermittents generally run on for a longer time, and remittents, especially in warm climates, are often fatal even in the first week of the disease.

Many distinctions have been made in continued fevers, by various authors in all ages of medicine, taken from some symptom arising in their course. Fevers were reduced by Sydenham, who wrote only from his experience, into three species, which he called epidemics. This distinction has since his time been very generally followed; but the names given them are different. They have been called by some inflammatory, pestilential or malignant, and nervous. By others they have been called inflammatory, putrid, jail, and nervous fevers; by others synocha, typhus, and synochus, using Greek terms, in which the present age abounds; as if changing the language or name was by some magic to produce a new real difference. The author, led by the authority of Sydenham,

and

and many other modern practitioners of great experience, when he first began to teach medicine in the year 1766, divided continued fevers into three species; but he has since found by long experience, that these apparent species merely proceed from the accidents of general inflammation, disposition to putrefaction, destruction of some of the vital parts of the body, irregularity, hysteric symptoms, or weakness, occurring in the disease, but which by no means constitute any specific difference. Men will have some specific name for the fever with which a patient is afflicted; as when there is bile thrown up, bilious fever; when there is delirium, brain fever. But these names surely constitute no useful distinction either for understanding or curing the disease.

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